SEQUENCE LISTING

<110> Hosted, Jr., Thomas J.
Horan, Ann C.

<120> Isolation of Micromonospora carbonacea var africana pMLP1 integrase and use of integrating function for site-specific integration into Micromonospora halophitica and Micromonospora carbonacea chromosome

<130> IN01164K

<140> 09/855,340
<141> 2001-05-15

<150> 60/204,670
<151> 2000-05-17

<160> 16

<170> PatentIn Ver. 2.1

<210> 1
<211> 1179
<212> DNA
<213> Micromonospora carbonacea

<400> 1
gtgtggatcg agaagaacgg gcccgtctac cgcattcggg acctcgttcg cggtaaaaag 60
gtcaccattc agaccggtta tccgacgaag accagcgcca agaatgcgat ggtgcagttc 120
cgtgcggagc agttgcaggg caacgcgctc atgccgcgcg gcggtcagat taccctcgcc 180
gatttcgtgg gggagtggtg gccgagctac gaaaagacgc tgaaaccgac cgccgtgaac 240
tcggagggca accggatccg caaccacctc ctgcccatac tcggccatct caccccttgac 300
gagctggacg ggcaggtcac ccagcagtgg gtcaacgacc tggaggccgg cgtcggcccg 360
tggccggagt ccacgcgggg tcgtcggaag ccgctggcag cgaagacgat cagcaactgc 420
cacggcctgc tgcacacgat ctgcggcgcg gcgatcgcgg cgaaacggat caggctcaac 480
ccgtgctctt cgacgatgct gccccggcgc gagccgaaag agatgaagtt cctgagcgac 540
ccggagatcg gtcggcttat cacggcgctt ccgccgcact ggcgaccgct cgtcatgctg 600
ctggtggcga ccggtctgag gtggggtgag gcgatcggcc tgcgcgccgg ccgggtcgac 660
ctgctcgccg cgcggccccg gctgaccgtc gtcgagcagc tccaggagct ggccagcacg 720
ggagagctcg tcttccagtc gccgaagacc gcgaagggcc ggcgcacggt cagtttcacc 780
acgaaagtcg ctctactgct tacgccactc atcgccggaa agaaaagtga cgaggtcgtg 840
ttcaccgcgc cgaaaggcgg gatggtaagg acgcgcaatt tccggcggat ctgggtcaag 900
gcgtgcgagg aagccgggct tccgggctta cgcattcacg atctgcggca cactcacgcg 960
gcgatcctga tttctgccgg gcgtccgctg tcggcgatct cccgccgcct cggtcactcg 1020
tcgatcgcgg tcacggatct gctgtacggg cacctgcgtg aggaggtcga cgaggggatc 1080
ctcgcggcga tcgaggaggc gatggccggc gtccgggctg aggacctgga ggcggaactc 1140
gacgaggagc tgacggacgt gttggccgac gcagcatga 1179

<210> 2
<211> 426
<212> DNA
<213> Micromonospora carbonacea

<400> 2
atgcgcaaca caccggggct ggggcgcggc acatgggccg catacgtcct caccgcccgc 60
gagcgcgccg gactgaccaa gagcgagttg gccaggcgca tccagaagga ccgggccacc 120
gtcggccggt gggaggacgg caagaaccgg cccgacgacg cggacctcgt tgcccgcgtc 180
gcccaggtgc tcggcctcga cctcgacgaa gccctcgccg ccgcaggtct gcgccccggc 240
gtcaccccgc cagcgacccc aaccatggac ctggacgagg aaatcgagct ggtccgcacc 300

gaccccaagc tggacgagga catgaagcgg cgcatcatcg ccctaatcct ggagcgccgt 360
gagcgcgaca aggcggcggc gatcgaggaa accaagcggc tcatcgacct gttccgccgg 420
agctga 426

<210> 3
<211> 34
<212> DNA
<213> Micromonospora carbonacea

<400> 3
ccccggtacg ggttcaattc ccatcagtca cccg 34

<210> 4
<211> 241
<212> DNA
<213> Micromonospora carbonacea

<400> 4
tattagtccg cacgccgccc ggccccgccg gagcggagcg catggtggct gtagctcagt 60
tggcagagca ccgggttgtg gtcccggttg tcgtgggttc aattcccatc agtcacccgt 120
acacgaaggc cccctccact cggagggggc cttcggcgtt cctgagggtt cgcggtcagg 180
cggtcggctc ggcgctgggg gactcggccc cgtcggcggg agtggcctcg gcgtccgggg 240
a 241

<210> 5
<211> 243
<212> DNA
<213> Micromonospora carbonacea

<400> 5
tggcgggggt gtggctatta ttagtccgca cgccgcccgg ccccgccgga gcggagcgca 60
tggtggctgt agctcagttg gcagagcacc gggttgtggt cccggttgtc gtgggttcaa 120
ttcccatcag tcacccggca agtggatcta ctccacagca gatcaggccc cctccgaaga 180
gggggcctga tgcgtcatag gggacaggta ggggaactca acccccggct ccttgctcgc 240
gtc 243

<210> 6
<211> 247
<212> DNA
<213> Micromonospora carbonacea

<400> 6
taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60
gtcaggtggc ctgttgaccc cctgaccagg gccccggtac gggttcaatt cccatcagtc 120
acccgtacac gaaggccccc tccactcgga gggggccttc ggcgttcctg agggttcgcg 180
gtcaggcggt cggctcggcg ctgggggact cggccccgtc ggcgggagtg gcctcggcgt 240
ccgggga 247

<210> 7
<211> 255
<212> DNA
<213> Micromonospora halophytica

<400> 7
tttctccgca cccgcccggg gcgttcgacc gggtgcggcg gcatggtggc tgtagctcag 60
ttggcagagc accgggttgt ggtcccggtt gtcgtgggtt caattcccat cagtcacccc 120

aggtaagacc caggtcaggg ccggttctca ccggccctga cgcattttca ggggcatggt 180
gggggcgcta ccgggggtgg ggtgtctcac cgcgagccag catctcgatc aggcgatcga 240
gccggcgctg ccggg 255

<210> 8
<211> 315
<212> DNA
<213> Micromonospora halophytica

<400> 8
tttctccgca cccgcccggg gcgttcgacc gggtgcggcg gcatggtggc tgtagctcag 60
ttggcagagc accgggttgt ggtcccggtt gtcgtgggtt caattcccat cagtcacccg 120
gcaagtggat ctactccaca gcagatcagg ccccctccga agaggggggcc tgatgcgtca 180
taggggacag gtaggggaac tcaacccccg gctccttgct cgcgtcgggt catgccgtcc 240
gcgtacccct ccgcgtacct ggccctctcc cgttcctcga tctcggcggc gagctgatcg 300
cgcaggtgcg cctcc 315

<210> 9
<211> 260
<212> DNA
<213> Micromonospora halophytica

<400> 9
taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60
gtcaggtggc ctgttgaccc cctgaccagg gccccggtac gggttcaatt cccatcagtc 120
accccaggta agacccaggt cagggccggt tctcaccggc cctgacgcat tttcaggggc 180
atggtggggg cgctaccggg ggtggggtgt ctcaccgcga gccagcatct cgatcaggcg 240
atcgagccgg cgctgccggg 260

<210> 10

<211> 209

<212> DNA

<213> artificial sequence

<220>

<223> pMLP1 attP region

<400> 10
taggggaatc cactccggag acgcccggag caatccggag catgacggag caaccagcag 60

gtcaggtggc ctgttgaccc cctgaccagg gccccggtac gggttcaatt cccatcagtc 120

acccggcaag tggatctact ccacagcaga tcaggccccc tccgaagagg gggcctgatg 180

cgtcataggg gacaggtagg ggaactcaa 209

<210> 11

<211> 19

<212> DNA

<213> artificial sequence

<220>

<223> primer PR144

<400> 11
tgcttcgacg ccatcargg 19

<210> 12

<211> 20

<212> DNA

<213> artificial sequence

<220>

<223> primer PR145

<220>

<221> misc_feature

<222> (7)..(7)

<223> n is inosine (I)

<400> 12
gtggaanccg ccgaakccgc 20

<210> 13

<211> 20

<212> DNA

<213> artificial sequence

<220>

<223> primer PDH504

<400> 13
agggcaacaa gggaagcgtc 20

<210> 14

<211> 21

<212> DNA

<213> artificial sequence

<220>

<223> primer PDH505

<400> 14
ggcgggggtg tggctattat t 21

<210> 15

<211> 21

<212> PRT

<213> artificial sequence

<220>

<223> amino acid sequence of open reading frame indicated in figures 4b and 4d

<400> 15

Ser Pro Asp Ala Glu Ala Thr Pro Ala Asp Gly Ala Glu Ser Pro Ser
1 5 10 15

Ala Glu Pro Thr Ala
20

<210> 16

<211> 21

<212> PRT

<213> artificial sequence

<220>

<223> amino acid sequence of open reading frame indicated in figures 5b and 5d

<400> 16

Arg Gln Arg Arg Leu Asp Arg Leu Ile Glu Met Leu Ala Arg Gly Glu
1 5 10 15

Thr Pro His Pro Arg
20